IOWA HIGHWAY RESEARCH BOARD (IHRB)

Minutes of June 1, 2012

Regular Board Members Present

A. Abu-Hawash
J. Berger
V. Dumdei
R. Knoche
J. May
R. Younie
K. Mayberry
J. Moellering
W. Weiss
C. Schloz
T. Wipf
D. Schnoebelen

Alternate Board Members Present

None

Members with No Representation

R. Kieffer
J.D. King
E. Steffensmeier

Secretary - M. Dunn

Visitors

Vanessa Goetz	Iowa Department of Transportation
Lori Pflughaupt	Iowa Department of Transportation
Linda Narigon	Iowa Department of Transportation
Mike Nop	Iowa Department of Transportation
Kenneth Dunker	Iowa Department of Transportation
Chris Cromwell	FHWA
Neal Hawkins	Iowa State University / CTRE
Paul Wiegand	Iowa State University / SUDAS
Sri Sritharan	Iowa State University
Kam Ng	Iowa State University
Jeremy Ashlock	Iowa State University

The meeting was held at the Iowa Department of Transportation Ames Complex, Materials East/West Conference Room, on Thursday, June 1, 2012. The meeting was called to order at 9:00 a.m. by Chairperson Ron Knoche with an initial number of 11 voting members/alternates at the table.

Agenda

No changes were made to the Agenda.

Motion to approve Minutes from the April 2012 meeting by R. Younie. 2nd by W, Weiss. Motion carried with 11 Aye, 0 Nay, 0 Abstaining.

******One new member joined the table: Now 12 voting members******

FINAL REPORT TR-629, Revision to the SUDAS Traffic Signal Standards Phase II, Paul Wiegand, Iowa State University/InTrans ($75,000)

BACKGROUND

Iowa Highway Research Board (IHRB) project TR-546 provided an update to the traffic signal content within the Iowa Statewide Urban Design and Specifications (SUDAS) Design Manual Chapter 13 and Standard Specifications Division 8. This work was completed through a project task force with a variety of participants (contractors, Iowa Department of Transportation, city traffic engineers, consultant, vendors, and University research and support staff).

TR-546 included a major revision to the SUDAS traffic signal specifications. New content was added and all proprietary references were eliminated. Major revisions to the SUDAS traffic signal design guidelines were also developed.

Instead of printing various parts of the Manual on Uniform Traffic Control Devices (MUTCD), the electronic version of the revised design chapter provides hyperlinks to the MUTCD as well as to other state Department of Transportation (DOT) resources that provide aid to the designer. The changes developed through TR-546 were implemented in the SUDAS manuals for the 2011 editions.

OBJECTIVES

Due to time and funding constraints for Phase 1 (TR-546), the project task force identified additional work to complete in Phase 2 (TR-629). This project was approved by the IHRB with the following work tasks included:

1. Update the existing SUDAS traffic signal figures
2. Conduct a structural review of footing steel and concrete capacities and standards, and incorporate this information into the SUDAS Design Manual
3. Develop and include non-proprietary, performance-based controller and cabinet specifications
4. Develop and include non-proprietary fiber optic cable, modem, and communications specifications
5. Develop and include non-proprietary video monitoring/camera specifications.

Motion to Approve by J. Berger. 2nd by D. Schnoebelen
Motion carried with 12 Aye, 0 Nay, 0 Abstaining.

FINAL REPORT TR-584: Development of LRFD Procedures for Bridge Piles in Iowa – Volume IV: Design Guide and Track Examples, Sri Sritharan, Iowa State University/InTrans

BACKGROUND

With the goal of producing engineered foundation designs with consistent levels of reliability as well as fulfilling the Federal Highway Administration (FHWA) mandate that all new bridges initiated after October 1, 2007 be designed according to the Load and Resistance Factor Design (LRFD) approach, the Iowa Highway Research Board (IHRB) sponsored three research projects on driven piles (TR-573, -583 and -584). The research outcomes are presented in three reports entitled Development of LRFD Design Procedures for Bridge Piles in Iowa, Volumes I, II, and III, and other research information is available on the project web site at http://srg.cce.iastate.edu/lrfd/.

Upon incorporating the regional LRFD recommendations from the completed research into the Iowa DOT Bridge Design Manual (2010) as it is being rewritten under the new title of LRFD Bridge Design

Manual (December 2011), and adopting the American Association of State Highway and Transportation Officials (AASHTO) LRFD Bridge Design Specifications (2010), this Volume IV for driven piles in Iowa was developed.

OBJECTIVES

Following the layout of a design guide, the application of the LRFD approach is demonstrated using various pile design examples in three different tracks, which depend on the construction control method used for establishing the pile driving criteria. Piles are designed using the Iowa Blue Book method. The pile driving criteria are established using the Wave Equation Analysis Program (WEAP) in Track 1, the modified Iowa Engineering News Record (ENR) formula in Track 2, and the combination of WEAP and the Pile Driving Analyzer (PDA) with a subsequent pile signal matching analysis using the CAse Pile Wave Analysis Program (CAPWAP) in Track 3.

- The track examples cover various pile types, three different soil profiles (cohesive, non-cohesive, and mixed) and special design considerations (piles on rock, scouring, downdrag, and uplift).

Motion to Approve by A. Abu-Hawash. 2nd by V. Dumdei.
Motion carried with 12 Aye, 0 Nay, 0 Abstaining

Initial RFPs for FY 13

There was a final review of the first-round of RFPs:

1. 12-01: Iowa Pavement Asset Management Decision Framework **– No further comments**
2. 12-02: Durable Pavement Marking & Grooving **– No further comments**
3. 12-03: Assessment of Non-Destructive Testing Technologies for Quality Control/Quality Assurance Testing of Asphalt Mixtures **– No further comments**
4. 12-04: Adapting Accelerated Bridge Construction (ABC) Best Practices for Small-Scale Projects with Local Jurisdictions - ****This project has been tabled for further discussion until next meeting****
5. 12-05: Development of a Subgrade Drainage Model for Unpaved Roads **– No further comments**

RFPs IHRB-12-01, IHRB-12-02, IHRB-12-03, IHRB-12-05 will be sent to researchers for submittal of proposals for the September meeting. IHRB-12-04 will be further developed and reviewed again at the June 29, 2012 meeting.

DISCUSSION: Implementation of IHRB Research

There was a discussion on improving implementation of research. A summary of the discussion is as follows:

*Implementation is often not adequately addressed within the original proposal since it can be difficult to identify what will be needed before there are research results available.

*It was suggested that a portion of IHRBs annual budget could be set aside at the beginning of each year for funding implementation efforts.

*The researcher is often not the person best suited to guide implementation efforts. A person within the highway agencies will typically be better suited for the implementation guidance.

*There is no "one-size-fits-all" approach to implementation due to the wide variety of research topics and types.

*It was proposed to add implementation discussion following the final presentation of the final report during the IHRB meeting. This discussion would include a recommendation from the TAC.

*It was proposed to include at least one TAC member for the implementation discussion at the IHRB meeting.

*Some implementation discussion naturally occurs with some projects at the IHRB meeting and some projects don't have an implementation plan in place.

Action item: Mark Dunn will prepare a recommendation for improving implementation at the June 29, 2012 meeting.

NEW BUSINESS--None

ADJOURN
Motion to Adjourn by B. Younie. 2nd by T. Wipf.
Motion carried with 12 aye, 0 nay, 0 abstaining.

The next meeting of the Iowa Highway Research Board will be held Friday, June 29, 2012, in the East/West Materials Conference Room at the Iowa DOT. The meeting will begin at 9 a.m.

Mark J. Dunn, IHRB Secretary